

Irrigation FACTSHEET



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SPRINKLER IRRIGATION DESIGN INFORMATION

A systematic approach to sprinkler irrigation system design can be achieved by following the approach outlined in this note. The designer must be conversant with design procedures in the BC Agricultural Irrigation Manual.

Soils Report

	PIT A		PIT B		PIT C	
Crop Root Depth (in)	_____		_____		_____	
Soil Depth (in)	Texture	AWSC (in/ft)	Texture	AWSC (in/ft)	Texture	AWSC (in/ft)
0 – 12	_____	_____	_____	_____	_____	_____
12 – 24	_____	_____	_____	_____	_____	_____
24 – 36	_____	_____	_____	_____	_____	_____
36 – 48	_____	_____	_____	_____	_____	_____
Total AWSC (in)	_____		_____		_____	
Max Applic. Rate (A.R.) (in/hr)	_____		_____		_____	

Design Parameters

Crop..... _____ ft
 Root Depth _____ ft
 Soil type..... _____
 Total available water storage capacity (AWSC) in
 Usable amount of water (_____ % AWSC) in
 Maximum application rate (AR) in/hr
 Evapotranspiration rate (ET)..... in/day
 Water source (gpm available)..... gpm

Design Data

Interval days
 Set Time hours
 Gross applied per irrigation in
 Net applied @ _____% efficiency in
 Application rate in/hr
 Spacing 'x _____'
 Nozzle x _____
 Pressure at the nozzle psi
 Gallons per minute per nozzle gpm

Mainline Friction Loss Calculation

x - x _____' - _____" _____ @ _____ gpm - _____ x _____ = _____ psi
 x - x _____' - _____" _____ @ _____ gpm - _____ x _____ = _____ psi
 x - x _____' - _____" _____ @ _____ gpm - _____ x _____ = _____ psi
 x - x _____' - _____" _____ @ _____ gpm - _____ x _____ = _____ psi
 x - x _____' - _____" _____ @ _____ gpm - _____ x _____ = _____ psi
 x - x _____' - _____" _____ @ _____ gpm - _____ x _____ = _____ psi
 x - x _____' - _____" _____ @ _____ gpm - _____ x _____ = _____ psi
 x - x _____' - _____" _____ @ _____ gpm - _____ x _____ = _____ psi

Total Friction Loss in Mainline _____ psi = _____ ft

Total Head Required

Pressure required at start of lateral @ _____ psi _____ ft
 Total friction loss in mainline..... _____ ft
 Elevation..... _____ ft
 Suction lift or pump setting in well..... _____ ft
 Miscellaneous losses..... _____ ft
Total Head Required _____ ft

Pump Specifications

Total head required..... _____ ft
 Total gpm required..... _____ gpm
 Minimum pump efficiency..... _____ %
 Model (to be filled in by Dealer).. _____

Horsepower Required

H.P. = $\frac{\text{ft.} \times \text{gpm}}{3960 \times \%}$ = _____ hp

FOR FURTHER INFORMATION, CONTACT

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